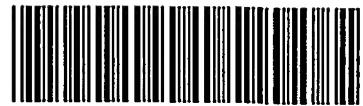


RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/656,053B
Source: IFWP
Date Processed by STIC: 6/17/05

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IFWO

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PATENT APPLICATION: US/10/656,053B

DATE: 06/17/2005

TIME: 15:04:22

Input Set : E:\ARAG003.APP.txt
 Output Set: N:\CRF4\06172005\J656053B.raw

3 <110> APPLICANT: GUEVERA, JR., JUAN G.
 4 HOOGVEEN, RON C.
 5 MOORE, PAUL J.
 7 <120> TITLE OF INVENTION: LIPOPROTEINS AS NUCLEIC ACID VECTORS
 9 <130> FILE REFERENCE: ARAG:003USD1
 11 <140> CURRENT APPLICATION NUMBER: 10/656,053B
 12 <141> CURRENT FILING DATE: 2003-09-05
 14 <150> PRIOR APPLICATION NUMBER: 09/079,030
 15 <151> PRIOR FILING DATE: 1998-05-14
 17 <150> PRIOR APPLICATION NUMBER: 08/874,807
 18 <151> PRIOR FILING DATE: 1997-06-13
 20 <160> NUMBER OF SEQ ID NOS: 229
 22 <170> SOFTWARE: PatentIn Ver. 2.1
 24 <210> SEQ ID NO: 1
 25 <211> LENGTH: 4536
 26 <212> TYPE: PRT
 27 <213> ORGANISM: Homo sapiens
 29 <400> SEQUENCE: 1
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 31 1 5 10 15
 33 Thr Arg Phe Lys His Leu Arg Lys Tyr Thr Tyr Asn Tyr Glu Ala Glu
 34 20 25 30
 36 Ser Ser Ser Gly Val Pro Gly Thr Ala Asp Ser Arg Ser Ala Thr Arg
 37 35 40 45
 39 Ile Asn Cys Lys Val Glu Leu Glu Val Pro Gln Leu Cys Ser Phe Ile
 40 50 55 60
 42 Leu Lys Thr Ser Gln Cys Thr Leu Lys Glu Val Tyr Gly Phe Asn Pro
 43 65 70 75 80
 45 Glu Gly Lys Ala Leu Leu Lys Lys Thr Lys Asn Ser Glu Glu Phe Ala
 46 85 90 95
 48 Ala Ala Met Ser Arg Tyr Glu Leu Lys Leu Ala Ile Pro Glu Gly Lys
 49 100 105 110
 51 Gln Val Phe Leu Tyr Pro Glu Lys Asp Glu Pro Thr Tyr Ile Leu Asn
 52 115 120 125
 54 Ile Lys Arg Gly Ile Ile Ser Ala Leu Leu Val Pro Pro Glu Thr Glu
 55 130 135 140
 57 Glu Ala Lys Gln Val Leu Phe Leu Asp Thr Val Tyr Gly Asn Cys Ser
 58 145 150 155 160
 60 Thr His Phe Thr Val Lys Thr Arg Lys Gly Asn Val Ala Thr Glu Ile
 61 165 170 175
 63 Ser Thr Glu Arg Asp Leu Gly Gln Cys Asp Arg Phe Lys Pro Ile Arg
 64 180 185 190
 66 Thr Gly Ile Ser Pro Leu Ala Leu Ile Lys Gly Met Thr Arg Pro Leu

P, 6

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PATENT APPLICATION: US/10/656,053B

DATE: 06/17/2005
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Output Set: N:\CRF4\06172005\J656053B.raw

67	195	200	205
69	Ser Thr Leu Ile Ser Ser Ser	Gln Ser Cys Gln Tyr Thr Leu Asp Ala	
70	210	215	220
72	Lys Arg Lys His Val Ala Glu Ala Ile Cys Lys Glu Gln His Leu Phe		
73	225	230	235
75	240	245	250
76	255	260	265
78	270	275	280
79	285	290	295
81	295	300	300
82	300	305	310
84	315	320	320
85	320	325	330
87	335	340	345
88	350	355	360
90	365	370	375
91	380	385	390
93	395	400	405
94	410	415	420
96	425	430	435
97	435	440	445
99	445	450	455
100	460	465	470
102	475	480	485
103	490	495	500
105	505	510	515
106	520	525	530
108	535	540	545
109	550	555	560
111	560	565	570
112	575	580	585
114	590		

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/656,053B

DATE: 06/17/2005
TIME: 15:04:22

Input Set : E:\ARAG003.APP.txt
Output Set: N:\CRF4\06172005\J656053B.raw

141 Lys Glu Ser Gln Leu Pro Thr Val Met Asp Phe Arg Lys Phe Ser Arg
142 595 600 605
144 Asn Tyr Gln Leu Tyr Lys Ser Val Ser Leu Pro Ser Leu Asp Pro Ala
145 610 615 620
147 Ser Ala Lys Ile Glu Gly Asn Leu Ile Phe Asp Pro Asn Asn Tyr Leu
148 625 630 635 640
150 Pro Lys Glu Ser Met Leu Lys Thr Thr Leu Thr Ala Phe Gly Phe Ala
151 645 650 655
153 Ser Ala Asp Leu Ile Glu Ile Gly Leu Glu Gly Lys Gly Phe Glu Pro
154 660 665 670
156 Thr Leu Glu Ala Leu Phe Gly Lys Gln Gly Phe Phe Pro Asp Ser Val
157 675 680 685
159 Asn Lys Ala Leu Tyr Trp Val Asn Gly Gln Val Pro Asp Gly Val Ser
160 690 695 700
162 Lys Val Leu Val Asp His Phe Gly Tyr Thr Lys Asp Asp Lys His Glu
163 705 710 715 720
165 Gln Asp Met Val Asn Gly Ile Met Leu Ser Val Glu Lys Leu Ile Lys
166 725 730 735
168 Asp Leu Lys Ser Lys Glu Val Pro Glu Ala Arg Ala Tyr Leu Arg Ile
169 740 745 750
171 Leu Gly Glu Glu Leu Gly Phe Ala Ser Leu His Asp Leu Gln Leu Leu
172 755 760 765
174 Gly Lys Leu Leu Leu Met Gly Ala Arg Thr Leu Gln Gly Ile Pro Gln
175 770 775 780
177 Met Ile Gly Glu Val Ile Arg Lys Gly Ser Lys Asn Asp Phe Phe Leu
178 785 790 795 800
180 His Tyr Ile Phe Met Glu Asn Ala Phe Glu Leu Pro Thr Gly Ala Gly
181 805 810 815
183 Leu Gln Leu Gln Ile Ser Ser Ser Gly Val Ile Ala Pro Gly Ala Lys
184 820 825 830
186 Ala Gly Val Lys Leu Glu Val Ala Asn Met Gln Ala Glu Leu Val Ala
187 835 840 845
189 Lys Pro Ser Val Ser Val Glu Phe Val Thr Asn Met Gly Ile Ile Ile
190 850 855 860
192 Pro Asp Phe Ala Arg Ser Gly Val Gln Met Asn Thr Asn Phe Phe His
193 865 870 875 880
195 Glu Ser Gly Leu Glu Ala His Val Ala Leu Lys Ala Gly Lys Leu Lys
196 885 890 895
198 Phe Ile Ile Pro Ser Pro Lys Arg Pro Val Lys Leu Leu Ser Gly Gly
199 900 905 910
201 Asn Thr Leu His Leu Val Ser Thr Thr Lys Thr Glu Val Ile Pro Pro
202 915 920 925
204 Leu Ile Glu Asn Arg Gln Ser Trp Ser Val Cys Lys Gln Val Phe Pro
205 930 935 940
207 Gly Leu Asn Tyr Cys Thr Ser Gly Ala Tyr Ser Asn Ala Ser Ser Thr
208 945 950 955 960
210 Asp Ser Ala Ser Tyr Tyr Pro Leu Thr Gly Asp Thr Arg Leu Glu Leu
211 965 970 975
213 Glu Leu Arg Pro Thr Gly Glu Ile Glu Gln Tyr Ser Val Ser Ala Thr

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PATENT APPLICATION: US/10/656,053B

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Input Set : E:\ARAG003.APP.txt
Output Set: N:\CRF4\06172005\J656053B.raw

214	980	985	990
216	Tyr Glu Leu Gln Arg Glu Asp Arg Ala Leu Val Asp Thr Leu Lys Phe		
217	995	1000	1005
219	Val Thr Gln Ala Glu Gly Ala Lys Gln Thr Glu Ala Thr Met Thr Phe		
220	1010	1015	1020
222	Lys Tyr Asn Arg Gln Ser Met Thr Leu Ser Ser Glu Val Gln Ile Pro		
223	1025	1030	1035
225	1040	1045	1050
226	Asp Phe Asp Val Asp Leu Gly Thr Ile Leu Arg Val Asn Asp Glu Ser		1055
228	1060	1065	1070
229	Thr Glu Gly Lys Thr Ser Tyr Arg Leu Thr Leu Asp Ile Gln Asn Lys		
231	1075	1080	1085
234	Lys Ile Thr Glu Val Ala Leu Met Gly His Leu Ser Cys Asp Thr Lys		
235	1090	1095	1100
237	Glu Ala Arg Ser Glu Ile Leu Ala His Trp Ser Pro Ala Lys Leu Leu		
238	1105	1110	1115
240	1120	1125	1130
243	Leu Gln Met Asp Ser Ser Ala Thr Ala Tyr Gly Ser Thr Val Ser Lys		1135
244	1140	1145	1150
246	Arg Val Ala Trp His Tyr Asp Glu Glu Lys Ile Glu Phe Glu Trp Asn		
247	1155	1160	1165
249	Thr Gly Thr Asn Val Asp Thr Lys Lys Met Thr Ser Asn Phe Pro Val		
250	1170	1175	1180
252	Asp Leu Ser Asp Tyr Pro Lys Ser Leu His Met Tyr Ala Asn Arg Leu		
253	1185	1190	1195
255	1200	1205	1210
256	Ser Lys Leu Ile Val Ala Met Ser Ser Trp Leu Gln Lys Ala Ser Gly		1215
258	1220	1225	1230
259	Ser Leu Pro Tyr Thr Gln Thr Leu Gln Asp His Leu Asn Ser Leu Lys		
261	1235	1240	1245
264	Glu Phe Asn Leu Gln Asn Met Gly Leu Pro Asp Phe His Ile Pro Glu		
265	1250	1255	1260
267	Asn Ser Leu Lys Ile Glu Ile Pro Leu Pro Phe Gly Gly Lys Ser Ser		
268	1265	1270	1275
270	1280	1285	1290
271	Arg Asp Leu Lys Met Leu Glu Thr Val Arg Thr Pro Ala Leu His Phe		1295
273	1300	1305	1310
276	Lys Ser Val Gly Phe His Leu Pro Ser Arg Glu Phe Gln Val Pro Thr		
277	1315	1320	1325
279	Phe Thr Ile Pro Lys Leu Tyr Gln Leu Gln Val Pro Leu Leu Gly Val		
280	1330	1335	1340
282	Leu Asp Leu Ser Thr Asn Val Tyr Ser Asn Leu Tyr Asn Trp Ser Ala		
283	1345	1350	1355
285	Ser Tyr Ser Gly Gly Asn Thr Ser Thr Asp His Phe Ser Leu Arg Ala		1360
286	1365	1370	1375

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/656,053B

DATE: 06/17/2005

TIME: 15:04:22

Input Set : E:\ARAG003.APP.txt

Output Set: N:\CRF4\06172005\J656053B.raw

288 Val Gln Gly Ser Gly Glu Thr Thr Tyr Asp His Lys Asn Thr Phe Thr
 289 1380 1385 1390
 291 Leu Ser Cys Asp Gly Ser Leu Arg His Lys Phe Leu Asp Ser Asn Ile
 292 1395 1400 1405
 294 Lys Phe Ser His Val Glu Lys Leu Gly Asn Asn Pro Val Ser Lys Gly
 295 1410 1415 1420
 297 Leu Leu Ile Phe Asp Ala Ser Ser Trp Gly Pro Gln Met Ser Ala
 298 1425 1430 1435 1440
 300 Ser Val His Leu Asp Ser Lys Lys Gln His Leu Phe Val Lys Glu
 301 1445 1450 1455
 303 Val Lys Ile Asp Gly Gln Phe Arg Val Ser Ser Phe Tyr Ala Lys Gly
 304 1460 1465 1470
 306 Thr Tyr Gly Leu Ser Cys Gln Arg Asp Pro Asn Thr Gly Arg Leu Asn
 307 1475 1480 1485
 309 Gly Glu Ser Asn Leu Arg Phe Asn Ser Ser Tyr Leu Gln Gly Thr Asn
 310 1490 1495 1500
 312 Gln Ile Thr Gly Arg Tyr Glu Asp Gly Thr Leu Ser Leu Thr Ser Thr
 313 1505 1510 1515 1520
 315 Ser Asp Leu Gln Ser Gly Ile Ile Lys Asn Thr Ala Ser Leu Lys Tyr
 316 1525 1530 1535
 318 Glu Asn Tyr Glu Leu Thr Leu Lys Ser Asp Thr Asn Gly Lys Tyr Lys
 319 1540 1545 1550
 321 Asn Phe Ala Thr Ser Asn Lys Met Asp Met Thr Phe Ser Lys Gln Asn
 322 1555 1560 1565
 324 Ala Leu Leu Arg Ser Glu Tyr Gln Ala Asp Tyr Glu Ser Leu Arg Phe
 325 1570 1575 1580
 327 Phe Ser Leu Leu Ser Gly Ser Leu Asn Ser His Gly Leu Glu Leu Asn
 328 1585 1590 1595 1600
 330 Ala Asp Ile Leu Gly Thr Asp Lys Ile Asn Ser Gly Ala His Lys Ala
 331 1605 1610 1615
 333 Thr Leu Arg Ile Gly Gln Asp Gly Ile Ser Thr Ser Ala Thr Thr Asn
 334 1620 1625 1630
 336 Leu Lys Cys Ser Leu Leu Val Leu Glu Asn Glu Leu Asn Ala Glu Leu
 337 1635 1640 1645
 339 Gly Leu Ser Gly Ala Ser Met Lys Leu Thr Thr Asn Gly Arg Phe Arg
 340 1650 1655 1660
 342 Glu His Asn Ala Lys Phe Ser Leu Asp Gly Lys Ala Ala Leu Thr Glu
 343 1665 1670 1675 1680
 345 Leu Ser Leu Gly Ser Ala Tyr Gln Ala Met Ile Leu Gly Val Asp Ser
 346 1685 1690 1695
 348 Lys Asn Ile Phe Asn Phe Lys Val Ser Gln Glu Gly Leu Lys Leu Ser
 349 1700 1705 1710
 351 Asn Asp Met Met Gly Ser Tyr Ala Glu Met Lys Phe Asp His Thr Asn
 352 1715 1720 1725
 354 Ser Leu Asn Ile Ala Gly Leu Ser Leu Asp Phe Ser Ser Lys Leu Asp
 355 1730 1735 1740
 357 Asn Ile Tyr Ser Ser Asp Lys Phe Tyr Lys Gln Thr Val Asn Leu Gln
 358 1745 1750 1755 1760
 360 Leu Gln Pro Tyr Ser Leu Val Thr Thr Leu Asn Ser Asp Leu Lys Tyr

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 06/17/2005
PATENT APPLICATION: US/10/656,053B TIME: 15:04:23

Input Set : E:\ARAG003.APP.txt
Output Set: N:\CRF4\06172005\J656053B.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:2; Xaa Pos. 2
Seq#:75; Xaa Pos. 2,3,4,5

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/656,053B

DATE: 06/17/2005

TIME: 15:04:23

Input Set : E:\ARAG003.APP.txt

Output Set: N:\CRF4\06172005\J656053B.raw

L:894 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0

L:2361 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:75 after pos.:0